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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/280,518	04/05/1999	KENSUKE FUJIWARA	32739M008	5926

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SUITE 800 1850 M STREET N W  
WASHINGTON, DC 20036

EXAMINER
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PHAM, HAI CHI

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/280,518

Applicant(s)

FUJIWARA, KENSUKE

Examiner

Hai C Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12/02/04 (Appeal Brief).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 6-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6 and 8-13 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. In view of the Appeal Brief filed on December 2, 2004, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6, 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Acknowledged Prior Art (referred hereinafter as AAPA) in view of Hattori et al. (U.S. 5,274,424).

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AAPA discloses an iterative algorithm for determining a particular value (maximum laser intensity) for a particular constant value (dark potential of the photoreceptor surface), wherein a photoreceptor (1) is exposed with the maximum laser intensity and the surface of the photoreceptor is measured by a potential sensor to provide information so as to determine whether the measured value matches the constant value.

However, AAPA applies a linear equation to the measured residual potential to calculate the laser intensity and fails to suggest the claimed two-stage algorithm, wherein the second stage of optimization includes the further converging division of intensity into intervals.

Hattori et al. discloses an image forming apparatus in which the light quantity of the laser beam for image reproduction is determined by successively forming patterns of electrostatic latent images on the photoconductor drum with increase in the light quantity of the laser beam, the successive increase in exposure light quantity is performed in two stages (option d1-b), at first roughly according to a first interval (20 levels) within a first range of intensity values [0-100] until the toner density is detected first in this first stage, e.g., when the light quantity is 60, then the second stage begins with a finely increase of the light quantity by a second and smaller interval (2 levels) within a second and smaller range of intensity values around the roughly determined light quantity level determined in the first stage, e.g., range [40-60] between which it is observed that the initial light quantity for image reproduction lies (col. 8, line 56 to col. 9,

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line 22) (Figs. 10 and 11). Hattori et al. further teaches the light quantity of the laser beam is measured when the output of the AIDC sensor exceeds the threshold level.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the algorithm disclosed by Hattori et al. in combination with exposure and measurement disclosed by AAPA without using the linear interpolation for determining the light quantity of the laser beam for the purpose of reducing the length as well as increasing the precision of the optimization in adjustment of the laser intensity for a particular potential, as suggested by Hattori et al. at col. 9, lines 10-11.

4. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Hattori et al., as applied to claim 6 above, and further in view of Sugiyama et al. (U.S. 5,737,665).

Although AAPA discloses the exposure of the photoreceptor surface being performed repeatedly with further adjustment of the maximum intensity of the laser beam such that the measurement of the residual potentials can be made (Fig. 5), AAPA does not expressly disclose the plurality of exposed patch portions being spaced apart from each other on the photoreceptor surface while Hattori et al. teaches forming patterns of image having rectangular shape (Fig. 11) but not spaced apart from each other.

However, it is well known in the printing art that the calibration test patterns are formed on the photoreceptor surface as rectangular patches and that the individual

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patches are spaced apart from each other as evidenced by Sugiyama et al., which teaches a plurality of rectangular test patterns being formed on the surface of the drum (col. 3, lines 21-32) (Fig. 4), each pattern being separated from the other such that the density measurement of each pattern can be accurately performed.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a plurality of rectangular test patterns separated in space as taught by Sugiyama et al. in the modified device of AAPA. The motivation for doing so would have been to allow easy detection and reading of the test patterns as well as accurate measurement of the residual potentials.

#### ***Allowable Subject Matter***

5. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: the primary reason for the indication of the allowability of claim 7 is the inclusion therein, in combination as currently claimed, of the limitation "wherein said second potential detecting step is *repeated* until there is obtained a potential equal or substantially equal to said predetermined set potential", which is not found taught by the prior art of record considered alone or in combination.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM  
PRIMARY EXAMINER

February 1, 2005